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power, and construction branches. Among the machines the plant has produced are rolling mills, special mine hoists, superpower excavators, horizontal forging machines, mixers, and converters.

From the beginning of 1950 to the present, plant designers have succeeded in reducing considerably the weight of their products, applying toward this end such measures as typization and normalization, careful checking of structural stresses, and substitution of welding for casting. As a result of the reductions in weight, the plant has saved over 5 million rubles. During 9 months of 1952, improvements in design saved the plant 174 tons of metal, including 120 tons of rolled metal and 4 tons of nonferrous metal.

Efforts to lighten horizontal forging machines were particularly successful: the GKM-800 was reduced in weight by 10 tons, the GKM-1200 by 7 tons, and the GKM-2000 by 6 tons. A universal electric mine hoist which is 20 percent lighter than other cylindrical-drum models was developed. Excavators, as well, were reduced in weight.

The plant management has pledged to improve further the design of its products, utilizing to the utmost typization, unification, and normalization; to make full use of satisfactory substitutes in certain designs; and to broaden the use of surface-hardened parts. It has also pledged to save 680 tons of ferrous metals, 350 tons of rolled metal, and 4 tons of nonferrous metal during 1953. -- N. Babich, director, Novo-Kramatorsk Plant imeni Stalin; V. Karpov, chief engineer, Stalin Prize winner; N. Yankovskiy, deputy secretary of Plant Party Committee; V. Kuznetsov, chief designer

SUPPLY NEEDS OF PIPE BUILDERS -- Moscow, Moskovskaya Pravda, 22 Nov 52

The Elektrostal' Novo-Kramatorskiy Plant imeni Stalin recently built a 650 rolling mill for the Zhdanov Azovstal' Plant. Designed for rolling large-diameter pipes, the mill weighs nearly 10,000 tons. The plant has built other pipe-rolling mills for pipe plants in Pervoural'sk and Khartsyzsk. It is now working on a completely automatic heavy rolling mill for the Nizhniy Tagil Metallurgical Plant.

The plant has produced some special welding machines, for spiral and straight welding of pipes under flux.

DESIGN CHANGES SAVE METAL -- Kiev, Pravda Ukrainy, 27 Nov 52

During 22 months of the current Five-Year Plan, the Staro-Kramatorsk Plant imeni Ordzhonikidze has saved 120 tons of rolled metal, 225 tons of cast iron and steel, and 4.7 tons of nonferrous metals. This was achieved through improved design and the use of substitutes.

Improvements in the design of an ore bridge saved 22 tons of rolled metal; a disk type metal shear was turned out which was 3 tons lighter than existing types; a rolling-mill stand 10 tons lighter than existing models was developed; and 50 tons of metal were saved by changing the design of a base for a sheet rolling mill stand.

For 1953, the plant is pledged to save 200 tons of ferrous metals, 2 tons of nonferrous metal, and 75 tons of structural metal. -- F. Dotsenko, director, Staro-Kramatorsk Plant imeni Ordzhonikidze

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DIVERSITY OF PRODUCTION IMPAIRS PLANT'S EFFICIENCY -- Stalinabad, Kommunist Tadzhikistana, 27 Sep 52

The Stalinabad Plant imeni Ordzhonikidze underwent a radical alteration during the Fourth Five-Year Plan. A forge shop was built and put in operation, the heat-treatment shop was restored, and molding and transport operations of the foundry were mechanized. Gross production doubled.

During the 5-year period, the plant established production of many kinds of fittings for the petroleum industry, and other items. Technological and organizational improvements increased the plant's labor productivity by 166.4 percent.

The State Planning Institute for Petroleum Machine Building has now drawn up plans for restoration of the plant's machine-and-assembly shop, providing for the installation of several assembly lines. Some special high-duty universal machine tools have been ordered for this shop.

Unfortunately, recovery of the plant is hindered by the fact that ministries and planning organizations plan the production of identical items by several enterprises of a single main administration. Consequently, plants produce too many items, impairing their efficiency. For example, the Stalinabad Plant imeni Ordzhonikidze, which has 37 kinds of items on its production program, spends 70 percent of its productive capacity on four of these items, and only 30 percent on the rest.

The above-mentioned four items, all series-produced by the plant, are made in a much smaller quantity by three other plants of the same main administration to which all four plants are subordinate. Neither the Stalinabad Plant imeni Ordzhonikidze nor the three other enterprises have put production on a constant-flow basis, although such a step would be desirable, as it would cut cost and labor consumption, and make it possible to use special high-duty machine tools.

In the light of the above factors, it would seem advisable to have the ministry and planning organizations which are implementing the Five-Year Plan concentrate the manufacture of products of a related nature in single enterprises, preventing wasteful duplication of effort and effecting a restriction of the products lists for individual enterprises to the minimum.

Despite the importance of high-speed metal-cutting methods in meeting current plans, some enterprises of the Ministry of Machine Tool Building continue to put out metalworking machine tools of old design. In September, the Stalinabad Plant imeni Ordzhonikidze received from the Frunze Machine Tool Plant two screw-cutting machines of 1952 make which fell far short of providing the desired number of rpm. High-speed operators called for modernization of these machines.

By now, all machine-tool building enterprises should be producing modernized metal-cutting equipment for high-speed cutting. The production of tools for the metalworking industry is also insufficient, especially of those used for high-speed cutting. -- V. Novichkov, director, Stalinabad Plant imeni Ordzhonikidze

FOUNDRY REJECT INCREASE -- Moscow, Vechernyaya Moskva, 25 Oct 52

The foundry at the Moscow Krasnaya Presnya Plant is operating below par, failing to meet its plan for the products list, while it departs from the schedule in delivering iron and steel castings to other plants. Each month rejects have been increasing, as castings come out of the foundry marred by cracks, pores, and sinkholes. Rejects in the first quarter 1952 amounted to 7 percent of all castings, while in the second quarter the reject figure increased to 9.8 percent, the approximate present level of rejects.

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The technological level of the foundry is extremely low. Greater care should be exercised in making patterns, which are made from materials containing excessive moisture, and piled up in heaps, sometimes outdoors.

Finished cores lie unused for as long as 25 days, while the normal period should be only 2-4 days. This, of course, contributes to casting flaws.

Technology is far from perfect in the case of castings supplied to the Krasnaya Presnya Plant by such Moscow plants as the Manometr, Platinopribor, and Woodworking Machine Tool plants.

The charging and pouring section at the Krasnaya Presnya Plant operates irregularly. The charge is gotten together and heaped into the cupola according to on-the-spot decisions rather than according to a system. While pouring the metal into the molds, the workers neglect to skim off the slag. The various kinds of iron are not set aside for the appropriate charges according to their planned designations. Ladles now in use do not permit the pourers to measure the amount of molten metal required for the individual castings.

In July 1952, 83 castings were rejected because an insufficient amount of metal was poured into them, while 102 were rejected because they contained slag. In August, castings rejected for insufficient metal were nearly three times the July number; the figure for slag-content rejects was  $1\frac{1}{2}$  times as great. In September the situation was no better. Iron and steel castings are being rejected for these reasons not only at the Krasnaya Presnya foundry, but also at the supplying enterprises. On 13 October, at the Woodworking Machine Tool Plant, 146 castings, having an aggregate weight of over 4,000 kilograms, were rejected because of bubbles.

The Krasnaya Presnya management is not taking the measures needed to bring order to the foundry. The question of defective products is often taken up at the dispatchers' conferences, where many reasonable decisions are made, and orders frequently given; but the matter stops there.

The low quality of the castings is the result of a poor production system, marked by violation of technological discipline, indifference of individual workers to their tasks, and the absence of between-operations checks on the making of patterns, cores, and molds.

In one patternmaking section, 20 patternmakers work without any technological check being made on them. The patternmakers were responsible for flaws in a stand made for the Volna Revolyutsii Plant, and for the rejection of a stand for a 541 casting machine and the frame for a 265 molding machine.

Many cores are of inferior quality because the drying-oven temperature is regulated by eye.

The sand-conditioning department and its laboratory are completely neglected. The laboratory is in frightful condition, its instruments and fittings are covered with rust. For the past 4 months, an ordinary worker has been handling the sand "analysis." -- V. Barinov, senior inspection foreman, Moscow Krasnaya Presnya Plant

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Moscow, Vechernyaya Moskva, 13 Nov 52

In reference to the Vechernyaya Moskva article of 25 October about the foundry of the Moscow Krasnaya Presnya Plant, it must be admitted that the shortcomings described therein do, in fact, exist.

The Main Administration of Foundry Machine Building and Molding Materials has sent the senior engineer of its Technical Division to the plant to seek a way to improve the situation there. -- Aleksashin, chief, Main Administration of Foundry Machine Building and Molding Materials, Ministry of Machine Tool Building

UZBEK SSR PLANTS LOW IN MECHANIZATION -- Tashkent, Pravda Vostoka, 28 Dec 52

During the Fourth Five-Year Plan, over 220 new types of machines designed to mechanize industrial operations were put into series production in the USSR.

The machine building industry of the Uzbek SSR, however, still suffers from shortcomings in mechanization, particularly in the hoist and transport field. Among the most delinquent enterprises are the Pod'yemnik, Uzbeksel'mash, Sredazkhimmash, Electric Cable, and Excavator plants, all of Tashkent.

In individual machine building plants, from 40 to 65 percent of the work is performed by hand. At the Tashkent Excavator Plant, 62 percent of the work is performed by hand; the figure increases to 67 percent at the Pod'yemnik Plant, and to 68 percent at the Tashkent Tashkhlopkomash Plant. These figures reflect failure to mechanize heavy, labor-consuming operations -- especially ancillary operations in the assembly, fitting-and-welding, forge, and tool shops, as well as in the foundries.

Mechanization of welding operations is especially deficient in the Uzbek SSR, with automatic methods having been introduced in only three plants. Shortcomings in this operation hold up production throughout an entire plant.

Application of automatic welding at the Sredazkhimmash Plant increased the productivity of welding machines tenfold. Use of an AB type welding head, designed by the Welding Institute imeni Paton, effected a great increase in output of chemical equipment, and enabled the plant to save 300,000 rubles in a year. Automatic welding of thin metals at the Uzbeksel'mash Plant brought about a considerable increase in welding productivity there.

Foundries are being mechanized only gradually; many of them constitute bottlenecks in their plants.

The monthly output of sand castings per worker at the foundry of the Tashkent Excavator Plant does not exceed 1.3 tons; at the Pod'yemnik Plant it is under 2.1 tons; at the Tashsel'mash Plant it is under 1.1 tons. Production of the mechanized foundry at the Tashtekstil'mash Plant far exceeds that of the above three plants, but despite this superior showing, the operating time of a molding machine in that foundry is only 10-12 percent of the entire molding time, while mechanization is low in shakeout, cleaning, and scrap charging operations.

Molding and core making departments are in general insufficiently mechanized in Uzbek foundries. A great deal of hand labor is consumed in pouring, shakeout, and cleaning operations. The Sredazkhimmash Plant is holding up the installation of hydraulic cleaning systems, devices which would greatly boost labor productivity.

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The Uzbeksel'mash Plant is equipped with machines for pouring and for shakeout operations, but they are not used. The Tashsel'mash Plant is capable of mechanizing its foundry completely, but cleaning operations are so far only one-fourth mechanized.

In press and forging shops basic operations are almost completely mechanized, but ancillary processes there are far short of mechanization. Specifically, hand methods are still used in removing the billet, moving it to the machine, feeding it into the die, removing the forging from the die, putting the forging onto a transportation unit for the next operation, lubricating the die, air-cooling the die, and removing scale.

About 40 percent of the workers in machine building plants are occupied in ancillary operations in basic and subsidiary shops, and in loading operations. Hand cars are still used in many shops for the removal of waste where power cars and conveyers should be used.

At the Tashkhlopkomash and Uzbeksel'mash plants, labor productivity in loading operations is one third to one fourth that of the leading plants, where these operations are mechanized.

It is up to Uzbek workers to bring about an improvement of industrial mechanization. -- P. Kulichenkov, deputy chief, Machine Building Division, Central Committee, Communist Party of Uzbekistan

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